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REMARKS

The Applicants request reconsideration of the objections to the specification and claims, as set forth in the Quayle Action dated May 17, 2005.

Claims 2-3, 6-8, 10-13, 15-16, 18-21, and 24-28 are now pending.

In reply to the Examiner's requirement for replacement pages for the incorrect pages 27 and 37 that were filed with the application papers, the Applicants submit herewith the correct pages 27 and 37 that were inadvertently substituted when the application was filed. No new matter is included in the replacement pages, as discussed in detail below.

First, turning to page 27, the incorrect page 27 that was filed with the application clearly does not belong to this application. There are numerous references to a flow of processing relating to an application being loaded. Note also the reference to Fig. 14, said to show "a flowchart representing the procedure of processing to load an application of a service provider by using a message signature put by an agent." Fig. 14 of this application, however, shows a plot of communication traffic versus time. Original page 27 is thus clearly incorrect and was submitted by mistake.

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In the proposed substitute page 27 (attached), the "configuration of the network system" of Fig. 5 is discussed, consistent with the introduction on the last two lines of page 26.

In the first paragraph on page 27, the network system is described as including a network apparatus connected with a plurality of physical links. Further, the paragraph states that a plurality of server apparatus are each connected to one of the plurality of physical links. This fundamental construction is readily seen in Fig. 5, which shows a LAN switch A 61 connected with a plurality of physical links to a plurality of servers a-d 62-65.

In the second paragraph on page 27, the network apparatus is described as a LAN switch. The paragraph also states that the LAN switch is provided with the band control function described previously in the specification (see page 10, lines 5-11 and page 11, lines 3-19, by way of example) and Fig. 1, which shows network apparatus 1 including band control program (MAC client) 10. The paragraph continues to note that the network apparatus is not limited to a LAN switch, but that it can be any network apparatus that supports the technology of the IEEE802.3x standard. Support for this note is found

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throughout the specification. See, for example, page 9, lines 10-23:

[O]ne unit of time described in the present embodiment ... is the time unit specified in IEEE802.3x (512-bit time).

Fig. 1 shows a network system comprising a network apparatus 1 and a server apparatus 3 connected to the network apparatus 1 by a link 2. ... The network apparatus 1 and the server apparatus 3 are provided with MAC chip sets 4 and 5 as well as MAC control units 6 and 7, respectively. The MAC chip sets 4 and 5 as well as MAC control units 6 and 7 are each provided with the PAUSE function specified in IEEE802.3x.

The Applicants further refer the Examiner to page 2, line 13 through page 4, line 10 (establishing IEEE802.3x as relating to known technology that temporarily stops the transmission traffic between apparatus connected to each other by a full duplex link, including transmission and reception of PAUSE frames); page 6, lines 1-8 (discussing means that will be required to solve problems in the transmission of PAUSE frames and control of communication band volume in the IEEE802.3x specification); and page 12, lines 9-13 (setting forth that the IEEE802.3x standard includes two types of delay, which have a role in the present invention as discussed in the ensuing pages).

The final paragraph on page 27 bridges pages 27 and 28. The portion of this paragraph on page 27 describes server

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apparatus a-d 62-65, and LAN switch A 61 connected to the server apparatus group by a link capable of full duplex communication. The paragraph further states that the LAN switch A 61 is provided with a plurality of ports for connecting to the server apparatus, and that the LAN switch A 61 has a band control program 10 or 33 described previously in the specification and a plurality of MAC chip sets and MAC control units that correspond to the ports. These details are evident from Fig. 5 itself, taken with the remainder of the specification and drawings, particularly including Fig. 1 and Fig. 3.

Therefore, the Applicants respectfully submit that the substitute page 27 may be entered as containing no new matter that was not present in the application on the day the application was filed.

Turning to page 37, this page as originally filed appears to relate to a security function associated with an IC card. Further, original page 36 concludes in the middle of a sentence which does not mesh with the sentence fragment beginning original page 37, and the sentence ending page 37 does not mesh with the sentence fragment at the top of

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original page 38. For these reasons, original page 37 clearly does not relate to the invention disclosed and claimed.

Substitute page 37 discusses the operation of band control program 10 in the context of a network constructed according to link aggregation (LA) technology. Specifically, the transmission of PAUSE frames according to instructions from the band control program 10 by each of a plurality of LA sub-layers corresponding to the server apparatus is disclosed. Support in the originally-filed specification for the proposed substitute page 37 is advanced below.

The embodiment to which page 37 primarily pertains is that illustrated in Fig. 6. Noting that Fig. 6 is identical to Fig. 5 (except for a different set of reference numerals), the Applicants prepared their specification to describe the employment of the Fig. 1 embodiment (in which band control program 10 instructs PAUSE frame transmission periodically to ensure that server traffic stays below the desired band use ratio) or the Fig. 3 embodiment (in which band control program 33 instructs PAUSE frame transmission when the server traffic exceeds the desired band use ratio). As introduced on page 34, and continuing beyond page 37, the Fig. 6 embodiment employs band control program 10 or band control program 33 in

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an embodiment in which link aggregation (LA) technology is applied. Thus, the details set forth on substitute page 37 (creation of PAUSE frames, calculation of PAUSE times, storage of individual PAUSE frames for each server apparatus, setting of PAUSE times, instruction of PAUSE frame transmission, reception of PAUSE frames, and performance of PAUSE in response thereto) are all evident from Fig. 6 taken in context with the disclosures concerning Figs. 1, 3, and 5, in particular, but especially when taken with the entire specification as a whole. In particular, the Applicants urge the Examiner to review pages 26-42 in conjunction with the figures, to see that the discussion on page 37, while desirable for cohesiveness, is nevertheless apparent from the overall disclosure.

For each of the foregoing reasons, the Applicants submit that substitute pages 27 and 37 should be entered in place of the incorrect pages that are currently in the file wrapper.

The Examiner also required that claim 17 be rewritten to be dependent from a lower-numbered claim. The dependency was properly changed to claim 19 when claim 19 was amended to incorporate the subject matter of claim 14 (and claim 14 was canceled). However, to expedite the allowance of the

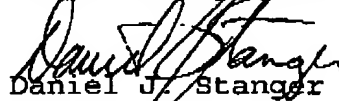
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application, claim 17 has been canceled and reinserted as new claim 28, dependent from claim 19.

In view of the foregoing amendments and remarks, the Applicants request reconsideration of the objections and allowance of the claims.

Respectfully submitted,



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In this network system, a network apparatus is connected with a plurality of physical links. A plurality of server apparatus are each connected to one of the plurality of physical links.

In this example, a network apparatus is described as a LAN switch. A LAN switch is provided with the band control function described above. It should be noted, however, that the network apparatus is not limited to a LAN switch, and it can be any network apparatus that supports the technology of the IEEE802.3x standard.

A server apparatus group comprises a server apparatus a 62, a server apparatus b 63, a server apparatus c 64, and a server apparatus d 65. A LAN switch A 61 is connected to the server apparatus group. Each of the server apparatus is connected to the LAN switch A 61 by a link capable of full duplex communication. The LAN switch A 61 is provided with a plurality of ports (not shown in the figure) for each connecting to one of the server apparatus via the link. The LAN switch A 61 has the band control program 10 or the band control program 33 described above (hereinafter referred to as "band control program 10 or 33"). The LAN switch A 61 is provided with a plurality of MAC chip sets and MAC control units. Each of the MAC chip sets and MAC control units corresponds to one of the ports. Since each of the ports corresponds to one of the

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band use ratio. The band control program 10 creates a PAUSE frame for each of the server apparatus. The PAUSE time a calculated for each of the server apparatus is set in each of the PAUSE frames. The band control program 10 stores each of the PAUSE frames created for each of the server apparatus in a data memory, and sets the PAUSE transmission time a in a timer. When the time in the timer is up, the band control program 10 provides instructions for the transmission of each of the PAUSE frames for each of the server apparatus. Each of the instructions is received by each of LA sub-layers that corresponds to one of the server apparatus. Each of the LA sub-layers selects a certain MAC control unit from among the plurality of MAC control units in the corresponding LA group in given order, and sends the instruction to the selected MAC control unit. The MAC control unit instructs the corresponding MAC chip set to perform DMA (Direct Memory Access) to the data memory. The MAC chip set reads the PAUSE frame from the data memory, and transmits the PAUSE frame from the corresponding port to the link connected to it. Thus, the band control program 10 periodically provides an instruction for the transmission of a PAUSE frame to each of the server apparatus. Each of the server apparatus receives the PAUSE frame and performs PAUSE for the period of the PAUSE time a that is set in the PAUSE frame. The